CLAIMS

1. A method for signal processing in a receiver and/or transmitter of a radio system, **characterized** by comprising:

determining (402) for different circuit arrangement nodes at least one operation to execute,

determining (404) one or more division criteria for signal classes for dividing signals or signal components,

dividing (406) at least one of the signals or signal components according to the one or more division criteria for signal classes,

executing (408) the predetermined operations in the circuit arrangement nodes signal-classwise.

2. A method for signal processing in a receiver and/or transmitter of a radio system, **characterized** by comprising:

determining (402) for different circuit arrangement nodes at least one operation to execute and selecting a modification level from the circuit arrangement, merging the selected modification level nodes and deleting irrelevant nodes and links between the nodes and/or adding new links,

determining (404) one or more division criteria for signal classes for dividing the signals or signal components,

dividing (406) at least one of the signals or signal components according to the one or more division criteria for signal classes,

executing (408) the predetermined operations in the circuit arrangement nodes signal-classwise.

3. A method as claimed in claim 1 or 2, **characterized** in that the circuit arrangement is at least substantially in accordance with a combined tree structure such that at least one tree branch performs transmitter tasks and at least one second branch performs receiver tasks, and in which circuit arrangement one or more nodes of different branches is connected in a predetermined manner.

4. A method as claimed in claim 1 or 2, **characterized** in that the circuit arrangement is at least substantially in accordance with a centralized loop such that at least two subtrees are connected to the loop, of which subtrees at least one subtree performs the tasks of radio-frequency parts and at least one second subtree performs the tasks of baseband parts.

5. A method as claimed in claim 1 or 2, **characterized** in that the signals or the signal components transfer packet-form data and the signal classes are indicated in the packet header.

6. A method as claimed in claim 1 or 2, **characterized** in that the nodes perform the tasks of the radio-frequency parts or the baseband parts.

7. A method as claimed in claim 1 or 2, **characterized** in that the circuit arrangement enables transfer of feedback information.

8. A method as claimed in claim 1 or 2, **characterized** in that signals to be modulated in different manners in one or more baseband nodes are divided into different signal classes.

9. A method as claimed in claim 1 or 2, **characterized** in that from the nodes it is possible to transmit data to one node (unicast) or a plurality of nodes (multicast or broadcast).

10. A method as claimed in claim 1 or 2, **characterized** in that network traffic load is monitored signal-classwise.

11. A method as claimed in claim 1 or 2, **characterized** in that the signal classes constitute a hierarchic signal class system, which class system comprises one or more levels.

12. A method as claimed in claim 1 or 2, **characterized** in that inter-node links have a maximum capacity, within which the number and type of the transmitted signal classes can be altered.

13. A method as claimed in claim 1 or 2, **characterized** in that the quality class is taken into account when the signal is clipped.

14. A method as claimed in claim 1 or 2, **characterized** in that the signal power is measured quality-classwise.

15. A method as claimed in claim 1 or 2, **characterized** in that the signals having different requirements for modulation accuracy are divided into different signal classes.

16. A method as claimed in claim 1 or 2, **characterized** in that the signals are divided into different signal classes after spatial, temporal and/or frequency-level preprocessing.

17. A method as claimed in claim 1 or 2, **characterized** in that the signals are divided into different signal classes after interference cancellation preprocessing.

18. A circuit arrangement for signal processing in a receiver and/or transmitter of a radio system,

characterized in that

circuit arrangement nodes (304, 306, 308, 310, 312, 314, 316, 318, 320, 322) are arranged to perform at least one operation,

the circuit arrangement comprises means (304, 306, 308, 310, 312, 314, 316, 318, 320, 322, 326) for dividing at least one of the signals or signal components according to one or more predetermined division criteria for signal classes,

the circuit arrangement comprises means (304, 306, 308, 310, 312, 314, 316, 318, 320, 322) for performing predetermined operations signal-classwise.

19. A circuit arrangement as claimed in claim 18, **characterized** in that the circuit arrangement is at least substantially in accordance with a combined tree structure such that at least one tree branch performs transmitter tasks and at least one second branch performs receiver tasks, and in which circuit arrangement one or more nodes of different branches is connected in a predetermined manner.

20. A circuit arrangement as claimed in claim 18, **characterized** in that the circuit arrangement is at least substantially in accordance with a centralized loop such that at least two subtrees are connected to the loop, of which subtrees at least one subtree performs the tasks of radio-frequency parts and at least one second subtree performs the tasks of baseband parts.

21. A circuit arrangement as claimed in claim 18, **characterized** in that the signals or the signal components transfer packet-form data and the signal classes are indicated in the packet header.

22. A circuit arrangement as claimed in claim 18, **characterized** in that nodes (304, 306, 308, 310, 312, 314, 316, 318, 320, 322) perform the tasks of radio-frequency parts or baseband parts.

23. A circuit arrangement as claimed in claim 18, **characterized** in that the circuit arrangement enables transfer of feedback information.

24. A circuit arrangement as claimed in claim 18, **characterized** in that the circuit arrangement comprises means (608, 614) for dividing the signals to be modulated in different manners into different signal classes.

25. A circuit arrangement as claimed in claim 18, **characterized** in that from nodes (304, 306, 308, 310, 312, 314, 316, 318, 320, 322) data can be transmitted to one node (unicast) or a plurality of nodes (multicast or broadcast).

26. A circuit arrangement as claimed in claim 18, **characterized** in that network traffic load is monitored signal-classwise.

27. A circuit arrangement as claimed in claim 18, **characterized** in that the signal classes constitute a hierarchic signal class system, which class system comprises one or more levels.

28. A circuit arrangement as claimed in claim 18, **characterized** in that links between nodes (304, 306, 308, 310, 312, 314, 316, 318, 320, 322) have a maximum transfer capacity, within which the number and type of the transferred signal classes can be altered.

29. A circuit arrangement as claimed in claim 18, **characterized** in that the quality class is taken into account when the signal is clipped.

30. A circuit arrangement as claimed in claim 18, **characterized** in that the signal power is measured quality-classwise.

31. A circuit arrangement as claimed in claim 18, **characterized** in that the circuit arrangement also comprises a control unit (534), which controls the division into signal classes.

32. A circuit arrangement as claimed in claim 18, **characterized** in that the circuit arrangement comprises means (304, 306, 308, 310, 312, 314, 316, 318, 320, 322, 326) for dividing signals having different requirements for modulation accuracy into different signal classes.

33. A circuit arrangement as claimed in claim 18, **characterized** in that the circuit arrangement comprises means (304, 306, 308, 310, 312, 314, 316, 318, 320, 322, 326) for dividing signals into different signal classes after spatial, temporal and/or frequency-level preprocessing.

34. A circuit arrangement as claimed in claim 18, **characterized** in that the circuit arrangement comprises means (304, 306, 308, 310, 312, 314, 316, 318, 320, 322, 326) for dividing signals into different signal classes after interference cancellation preprocessing.